

1995 Chevrolet S10 Pickup

ENGINE OVERHAUL 1995 GENERAL MOTORS ENGINES 4.3L V6 - VIN Z

ENGINE OVERHAUL

1995 GENERAL MOTORS ENGINES 4.3L V6 - VIN Z

ENGINE IDENTIFICATION

MODEL IDENTIFICATION

Series ⁽¹⁾	Model
"S"	2WD Blazer, Jimmy, Pickup & Sonoma
"T"	4WD Blazer, Jimmy, Pickup & Sonoma
(1) Fifth character of VIN.	

NOTE: For engine repair procedures not covered in this article, see **ENGINE OVERHAUL PROCEDURES - GENERAL INFORMATION** article in the **GENERAL INFORMATION** section.

Engine is identified by eighth character of Vehicle Identification Number (VIN). VIN is stamped on a metal tag on the top left end of the instrument panel, near the windshield. Refer to the **ENGINE IDENTIFICATION CODES** table.

Engine can also be identified by engine identification (ID) number. Number is stamped on front of cylinder block, immediately forward of right cylinder head or on left side of cylinder block, on engine-to-transmission mating flange.

ENGINE IDENTIFICATION CODES

Engine	⁽¹⁾ VIN Code	Engine ID
4.3L TBI	Z	LB4
(1) Eighth character of VIN.		

ADJUSTMENTS

VALVE CLEARANCE ADJUSTMENT

NOTE: Although valve clearance adjustment is not usually required (engine uses hydraulic valve lifters), perform the following procedure after servicing valve train.

Engine uses screw-in rocker arm studs with a shoulder. Tighten rocker arm nuts to 20 ft. lbs. (27 N.m).

REMOVAL & INSTALLATION

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GENERAL PRECAUTION

CAUTION: When battery is disconnected, vehicle computer and memory systems may lose memory data. Driveability problems may exist until computer systems have completed a relearn cycle. See **COMPUTER RELEARN PROCEDURES** article in **GENERAL INFORMATION** before disconnecting battery.

NOTE: For reassembly reference, label all electrical connectors, vacuum hoses and fuel lines before removal. Also place mating marks on engine hood and other major assemblies before removal.

FUEL PRESSURE RELEASE

Disconnect battery terminals. Loosen fuel tank cap to relieve tank pressure. When ignition is turned off, an internal constant bleed in injection unit relieves fuel system pressure. No further pressure relief is required.

ENGINE

CAUTION: Minimal clearance exists between oil pump pick-up tube and bottom of oil pan. DO NOT place jack under oil pan, crankshaft pulley or any sheet metal when lifting engine.

Removal & Installation ("S" Series Blazer & Pickup, Jimmy & Sonoma 2WD)

1. Release fuel system pressure. See **FUEL PRESSURE RELEASE** . Disconnect battery. Remove hood. Drain cooling system.
2. Disconnect upper radiator hose from radiator. Remove coolant overflow hose and upper fan shroud. Disconnect transmission fluid lines and engine oil cooler lines (if equipped). Remove radiator and fan. Disconnect heater hoses. Remove air cleaner.
3. Disconnect fuel lines, electrical connectors, vacuum hoses, coolant hoses and control cables as necessary. Remove distributor cap. Raise and support vehicle. Disconnect exhaust pipe from converter and manifolds. Remove strut rods and flywheel cover.
4. Remove torque converter bolts (A/T). Remove shield from rear of catalytic converter. Disconnect converter hanger from exhaust pipe. Remove 2 outer air dam bolts. Remove left body mount bolts, raise and support body and remove bellhousing bolts. Lower body.
5. Remove motor mount through-bolts. Lower vehicle. Remove A/C compressor and power steering pump with hoses attached and position aside (if equipped). Attach engine hoist. Support transmission. Remove engine. To install, reverse removal procedure. Fill crankcase and cooling system.

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Removal & Installation ("T" Series Blazer & Pickup, Jimmy & Sonoma 4WD)

- 1.
2. Release fuel system pressure. See **FUEL PRESSURE RELEASE** . Disconnect battery. Remove hood. Raise and support vehicle.
3. Loosen or remove body mount bolts. Raise and support body. Remove upper bellhousing bolts and front air dam end bolts. Lower body. Remove remaining bellhousing bolts. Support transmission and remove No. 2 frame crossmember. Disconnect exhaust pipes from manifolds.
4. Disconnect catalytic converter hanger. Remove flywheel cover. Disconnect front drive shaft from differential. Disconnect transmission cooler lines from engine clips. Remove motor mount bolts.
5. Remove torque converter bolts. Remove front splash shield and lower fan shroud bolts. Lower vehicle. Drain cooling system. Remove upper fan shroud. Disconnect radiator hoses from radiator. Disconnect oil filter pipe from remote oil filter.
6. Remove radiator, fan and air cleaner. Remove A/C compressor and power steering pump with hoses attached and position aside (if equipped). Disconnect fuel lines, electrical connectors, vacuum hoses, coolant hoses and control cables as necessary.
7. Attach engine hoist. Remove engine. To install, reverse removal procedure. Fill crankcase and cooling system.

INTAKE MANIFOLD

Removal

1. Release fuel system pressure. See **FUEL PRESSURE RELEASE** . Disconnect battery. Drain cooling system. Remove air cleaner.
2. Disconnect fuel lines, electrical connectors, vacuum hoses, coolant hoses and control cables as necessary. Remove alternator bracket, A/C compressor (with hoses attached), injection unit and cruise control servo as necessary.
3. Remove distributor cap. Mark distributor rotor in relation to distributor housing. Mark base of distributor housing in relation to intake manifold. Remove distributor. Remove intake manifold bolts, intake manifold and gaskets.

Installation

1. Install gaskets on cylinder heads. Apply a 3/16" bead of RTV silicone sealant to front and rear intake manifold-to-cylinder block mounting surfaces. See **Fig. 1** . Extend bead 1/2" beyond cylinder block-to-cylinder head junction.
2. Install intake manifold and bolts. Tighten retaining bolts in sequence to specification. Refer to **TORQUE SPECIFICATIONS** . Also see **Fig. 2** . Repeat tightening sequence. To complete installation, reverse removal procedure. Fill cooling system.

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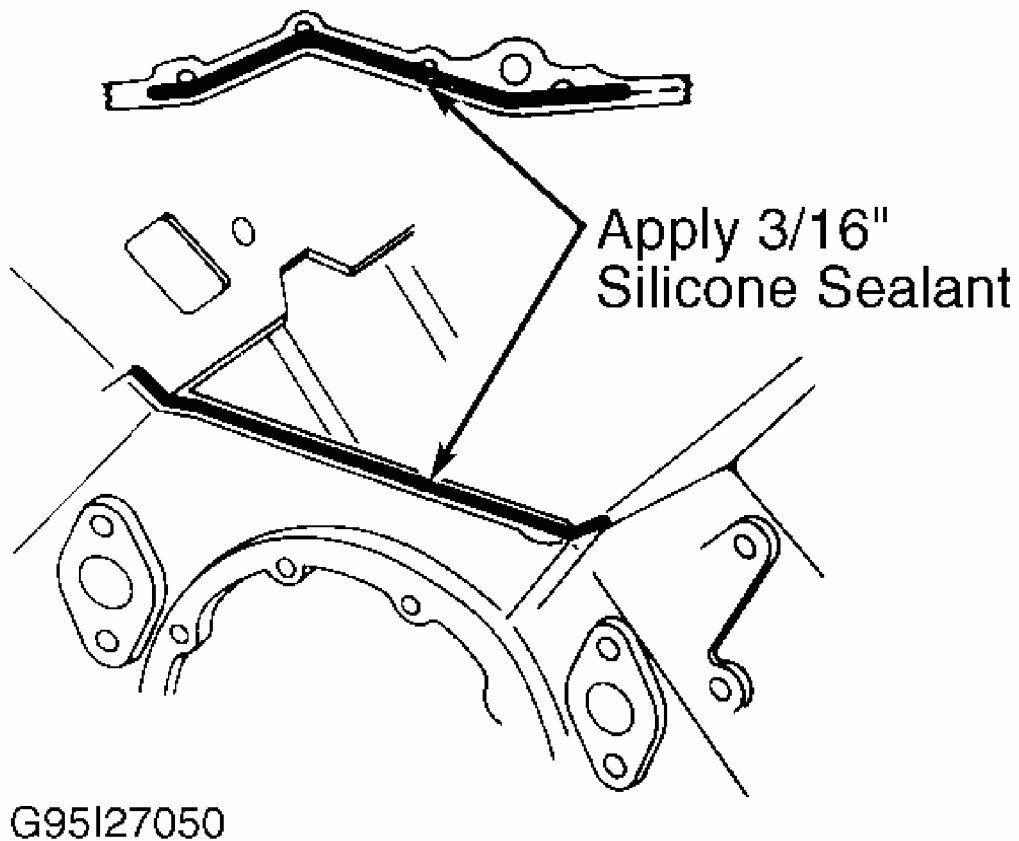


Fig. 1: Applying RTV Sealant Before Installing Intake Manifold
Courtesy of GENERAL MOTORS CORP.

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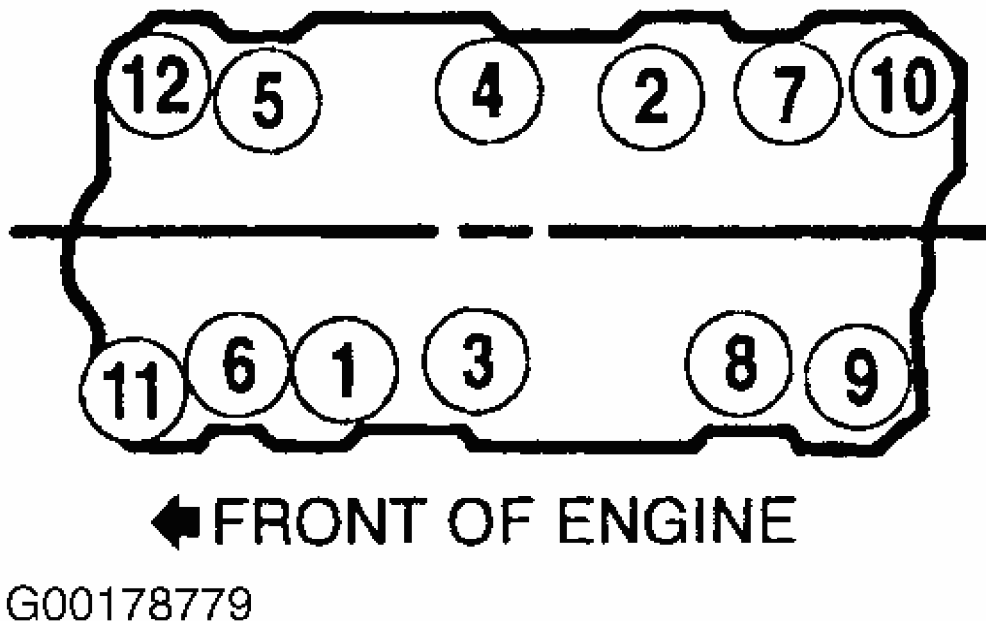


Fig. 2: Intake Manifold Bolt Tightening Sequence
Courtesy of GENERAL MOTORS CORP.

EXHAUST MANIFOLD

Removal

1. Remove heat stove tube. Remove all attached brackets and heat shields. If necessary, remove dip stick tube. Disconnect oxygen sensor electrical connector.
2. Disconnect exhaust pipe from manifold. Remove exhaust manifold bolts and exhaust manifold.

Installation

Install manifold. Tighten retaining bolts to specification. See **TORQUE SPECIFICATIONS** . Bend lock tabs (if equipped). To complete installation, reverse removal procedure.

CYLINDER HEAD

Removal

1. Release fuel system pressure. See **FUEL PRESSURE RELEASE** . Remove intake manifold. See **INTAKE MANIFOLD** .

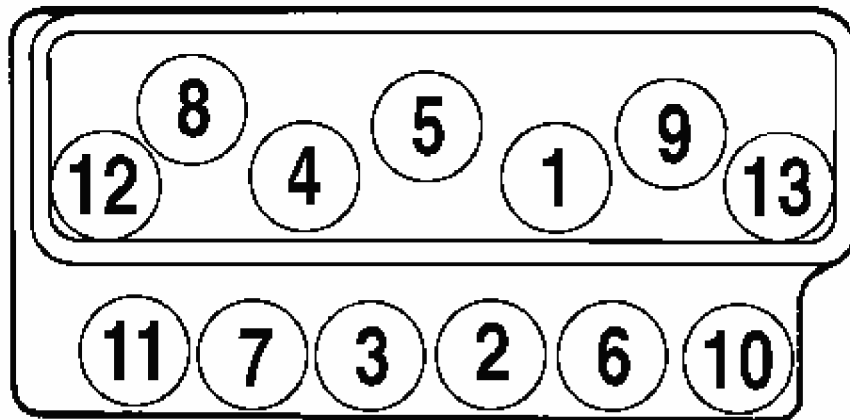
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2. Remove exhaust manifold. See **EXHAUST MANIFOLD** . Remove valve covers. Loosen rocker arm nuts. Rotate rocker arms aside. Remove push rods and mark for reassembly to original locations. Remove cylinder head bolts. Remove cylinder head.

Installation

1. Clean gasket surfaces, bolt threads and bolt holes. If using steel head gasket, thinly coat both sides of gasket with sealant. **DO NOT** apply sealant to composition (steel/asbestos) head gaskets. Position head gasket on cylinder block. Ensure all holes align. Coat head bolt threads with GM Sealant (1052080).
2. Install the cylinder head with bolts finger-tight. Tighten head retaining bolts in sequence to specification. See **Fig. 3** . Refer to **TORQUE SPECIFICATIONS** . Lubricate valve tip, rocker arm pivot and push rod socket with Molykote.
3. To complete installation, reverse removal procedure. Adjust valves. See **VALVE CLEARANCE ADJUSTMENT** under ADJUSTMENTS.



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Fig. 3: Cylinder Head Bolt Tightening Sequence
Courtesy of GENERAL MOTORS CORP.

FRONT COVER OIL SEAL

Removal

Remove accessory drive belt(s) and pulley. Remove crankshaft damper bolt. Using Damper Puller/Installer (J-39046), remove crankshaft damper. Pry seal from cover.

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Installation

1. Coat seal lip with engine oil. Using Seal Installer (J-35468), install NEW seal in front cover with seal lip facing engine. Apply RTV sealant to Woodruff keyway in crankshaft damper.
2. Install crankshaft damper. Install crankshaft damper bolt. Tighten to specification. See **TORQUE SPECIFICATIONS** . To install remaining components, reverse removal procedure.

TIMING CHAIN & SPROCKETS

Removal

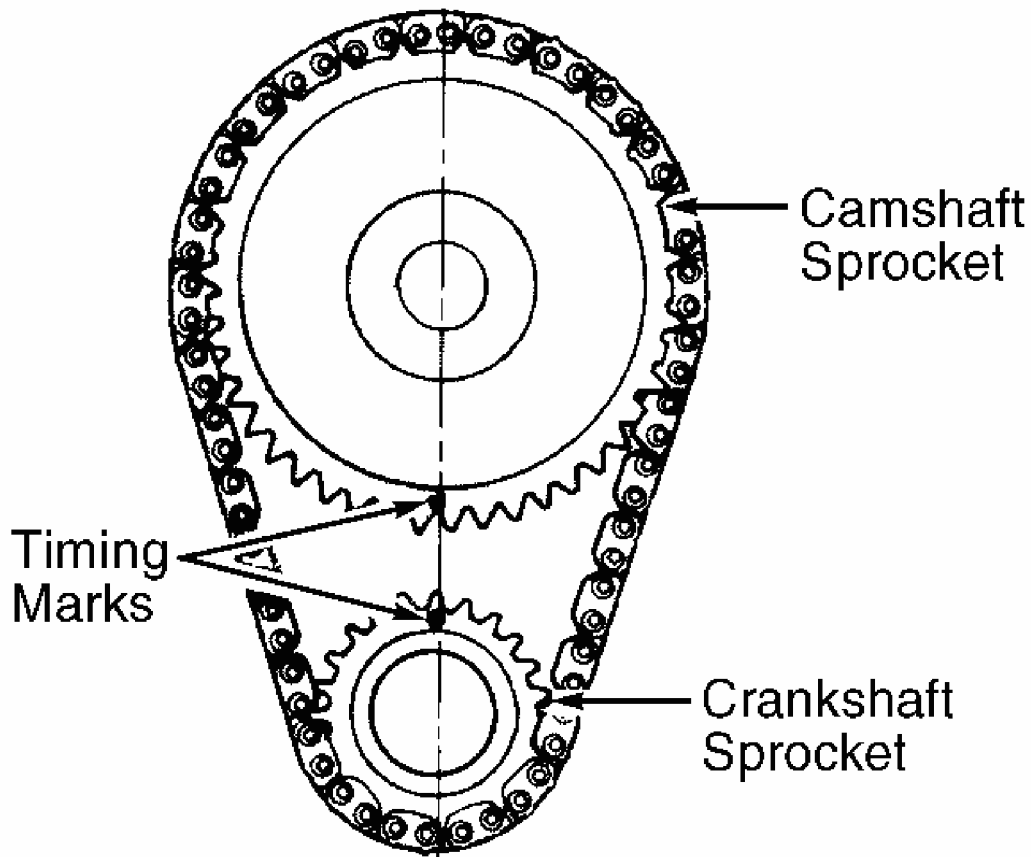
1. Disconnect battery. Drain cooling system. If necessary, remove radiator shroud. Remove accessory drive belts, fan and pulley. Remove crankshaft damper bolt. Using Damper Puller/Installer (J-39046), remove crankshaft damper.
2. Remove all mounting brackets and coolant hoses attached to water pump. Remove water pump. Remove oil pan. See **OIL PAN** . Remove front cover and gasket.
3. Rotate crankshaft until timing marks on camshaft and crankshaft sprockets are aligned. See **Fig. 4** . Remove camshaft sprocket and timing chain. To remove crankshaft sprocket, use Sprocket Puller (J-5825-A).

Installation

1. Install Woodruff key in crankshaft (if removed). Using Crankshaft Sprocket Installer (J-5590), install crankshaft sprocket. Install camshaft sprocket and timing chain. Ensure timing marks on sprockets are aligned. See **Fig. 4** .

CAUTION: On 4.3L with balance shaft, the timing gear sprocket marks align at TDC of cylinder No. 4.

2. Install and tighten camshaft sprocket bolts to specification. See **TORQUE SPECIFICATIONS** . Install gasket to front cover with gasket sealant. Install front cover and gasket.
3. Apply RTV sealant to Woodruff keyway in crankshaft damper. Install crankshaft damper. Install crankshaft damper bolt and tighten to specification. See **TORQUE SPECIFICATIONS** . To complete installation, reverse removal procedure.



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Fig. 4: Aligning Timing Marks
Courtesy of GENERAL MOTORS CORP.

ROCKER ARM STUDS

Removal & Installation

Unscrew rocker arm stud from cylinder head. To install, insert NEW rocker arm stud. Tighten to 35 ft. lbs. (47 N.m).

VALVE LIFTERS

Removal

1. Remove intake manifold. See **INTAKE MANIFOLD** . Remove valve covers. Loosen all rocker arm nuts and rotate rockers aside.
2. Remove push rods, noting location for reassembly reference. Remove lifter retainer.

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Remove roller lifter guides (if equipped). Remove lifters, noting location for reassembly reference.

Installation

Coat lifter base or roller (if equipped) and body with High Viscosity Oil/Zinc (12345501). Install lifters in original location. To complete installation, reverse removal procedure.

CAMSHAFT

Removal

1. Remove radiator. Discharge A/C system (if equipped) using approved refrigerant recovery/recycling equipment and remove A/C condenser (if equipped) and grille. Remove valve lifters. Refer to **VALVE LIFTERS** .
2. Remove timing chain and camshaft sprocket. Refer to **TIMING CHAIN & SPROCKETS** . Remove balance shaft gear (if equipped). Remove thrust plate. If necessary, raise engine. Remove camshaft.

Installation

Coat camshaft lobes and bearing journals with High Viscosity Oil/Zinc (12345501). Install camshaft. To complete installation, reverse removal procedure.

BALANCE SHAFT (4.3L - IF EQUIPPED)

Removal

1. Remove radiator. Discharge A/C system (if equipped) using approved refrigerant recovery/recycling equipment and remove A/C condenser (if equipped) and grille. Remove valve lifters. Refer to **VALVE LIFTERS** .
2. Remove timing chain and camshaft sprocket. Refer to **TIMING CHAIN & SPROCKETS** . Remove balance shaft gears. Remove balance shaft retainer plate.
3. Remove intake manifold. See **INTAKE MANIFOLD** . Using a soft-faced hammer, tap balance shaft out toward front of engine.

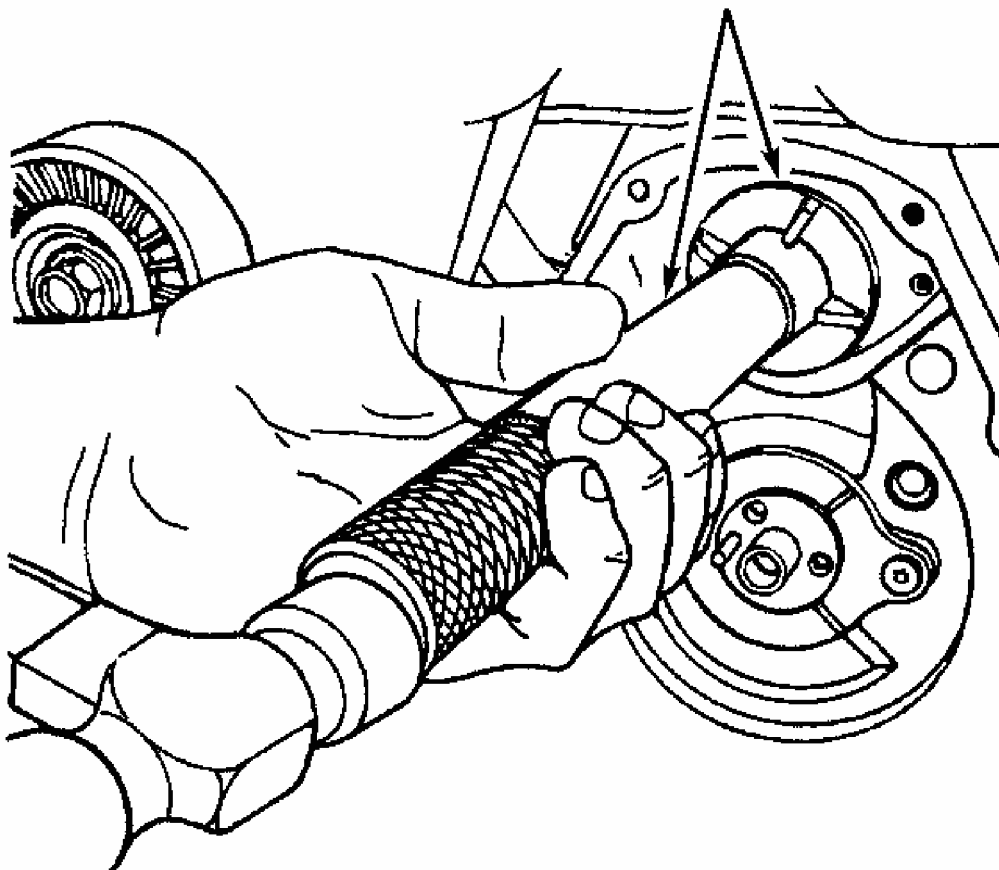
NOTE: **Front bearing is removed with balance shaft. Replace front bearing and balance shaft as a set only. Replace balance shaft timing gears as a set only.**

Installation

1. Apply oil to balance shaft bearings. Using Installers (J-36996 and J-8092), install balance shaft in block. See **Fig. 5** . Install lifter retainer (if equipped). Ensure balance shaft turns.
2. Install thrust plate. Install balance shaft gears. Ensure timing marks on balance shaft

gears are aligned. See **Fig. 6** . Install balance shaft timing gear bolt. Tighten bolt to 15 ft. lbs. (20 N.m). Then tighten bolt an additional 35 degrees. To complete installation, reverse removal procedure.

Balance Shaft Installers



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Fig. 5: Installing Balance Shaft
Courtesy of GENERAL MOTORS CORP.

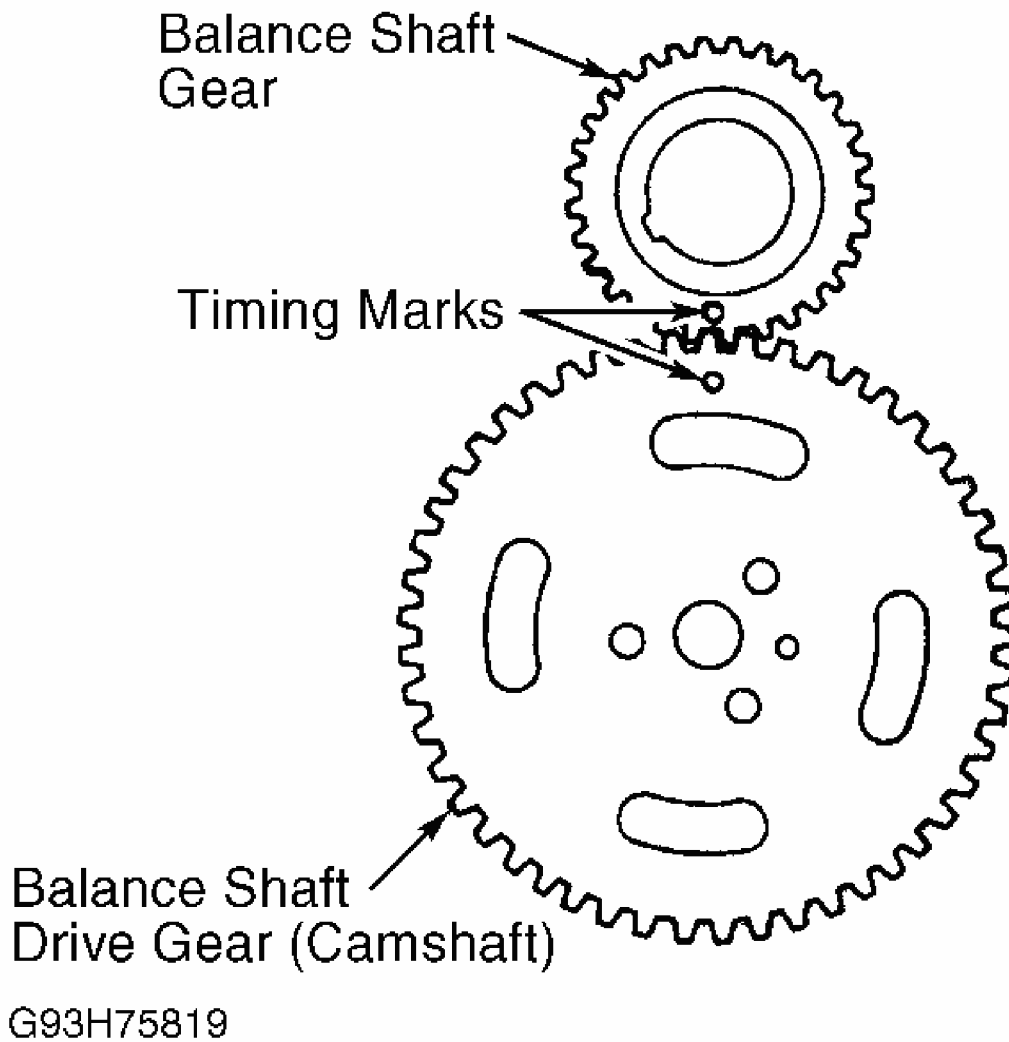


Fig. 6: Aligning Timing Marks For Balance Shaft Gears
Courtesy of GENERAL MOTORS CORP.

REAR CRANKSHAFT OIL SEAL

Removal

Remove transmission, clutch (M/T) and flywheel. Pry seal from housing.

Installation

1. Lubricate inner and outer diameter of seal with engine oil. Place seal on Seal Installer (J-35621). Position seal installer against crankshaft.
2. Thread attaching screws into crankshaft flange and tighten with screwdriver. This

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squares seal with crankshaft. Rotate seal installer handle until it bottoms. Remove seal installer. Install flywheel, clutch (M/T) and transmission.

WATER PUMP

Removal

Disconnect battery. Drain cooling system. Remove all drive belts, coolant hoses and mounting brackets attached to water pump. If necessary, remove fan shroud. Remove fan and pulley. Remove water pump and gaskets.

Installation

Install water pump with NEW gaskets. Tighten water pump bolts to specification. See **TORQUE SPECIFICATIONS** . To complete installation, reverse removal procedure.

OIL PAN

CAUTION: Minimal clearance exists between oil pump pick-up tube and bottom of oil pan. DO NOT place jack under oil pan, crankshaft pulley or any sheet metal when lifting engine.

Removal ("S" Series Pickup, Jimmy & Sonoma 2WD)

Raise and support vehicle. Drain crankcase. Remove engine. See **ENGINE** . Remove oil pan bolts, oil pan and gasket.

Removal ("T" Series Pickup, Jimmy & Sonoma 4WD)

1. Disconnect battery. Remove engine oil dipstick and accessory drive belt splash shield. Raise and support vehicle. Drain crankcase. Remove front axle shield and transfer case shield. Remove brake line clips from crossmember.
2. Remove second crossmember. Remove converter hanger bolts and exhaust pipe clamp from converter. Disconnect exhaust pipes from manifolds. Slide exhaust pipe rearward. Disconnect front drive shaft from differential.
3. Remove flywheel cover. Remove starter motor. Remove idler arm-to-frame bolts. Remove differential housing mounting bolts from bracket (right side) and frame (left side).
4. Move differential housing forward. Remove front engine mount through-bolts. Raise and support engine. On all, remove oil pan bolts, oil pan and gasket.

Installation

1. Apply RTV sealant to front cover-to-cylinder block junction and rear main bearing-to-cylinder block junction.
2. Install oil pan. Tighten oil pan bolts to specification. See **TORQUE**

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SPECIFICATIONS . To complete installation, reverse removal procedure. Fill crankcase.

OVERHAUL

CYLINDER HEAD

Valve Springs

1. Measure valve spring free length, installed height and pressure (tension). Replace valve spring if measurement is not within specification. See **VALVES & VALVE SPRINGS** table under ENGINE SPECIFICATIONS.
2. Measure installed height between cylinder head spring seat (or top of shim, if shimmed) and top of spring shield. If installed height exceeds specification, install shims as necessary to bring installed height to specification. Ensure installed height is not less than specified.

Valve Stem Oil Seals

1. Intake valve uses upper "O" ring seal and lower umbrella seal; exhaust valve uses upper "O" ring seal.
2. When installing umbrella seal, seat seal against valve guide boss on cylinder head. Coat upper "O" ring seal with engine oil before installation and ensure seal is not twisted when installed.

Valve Guides

Valve guides are part of cylinder head (not replaceable). Measure valve guide oil clearance. See **CYLINDER HEAD** table under ENGINE SPECIFICATIONS. If not within specification, ream valve guide and install valves with oversize stems.

Valves

Replace valve if margin is less than .031" (.8 mm).

VALVE TRAIN

Rocker Arm Assembly

Clean push rods, rocker arms, balls and nuts with solvent and blow dry. Inspect rocker arms and balls at mating surface. Surface should be smooth and free of damage. Inspect push rods for bends or wear. Ensure oil passages are clear.

CYLINDER BLOCK ASSEMBLY

Piston & Rod Assembly

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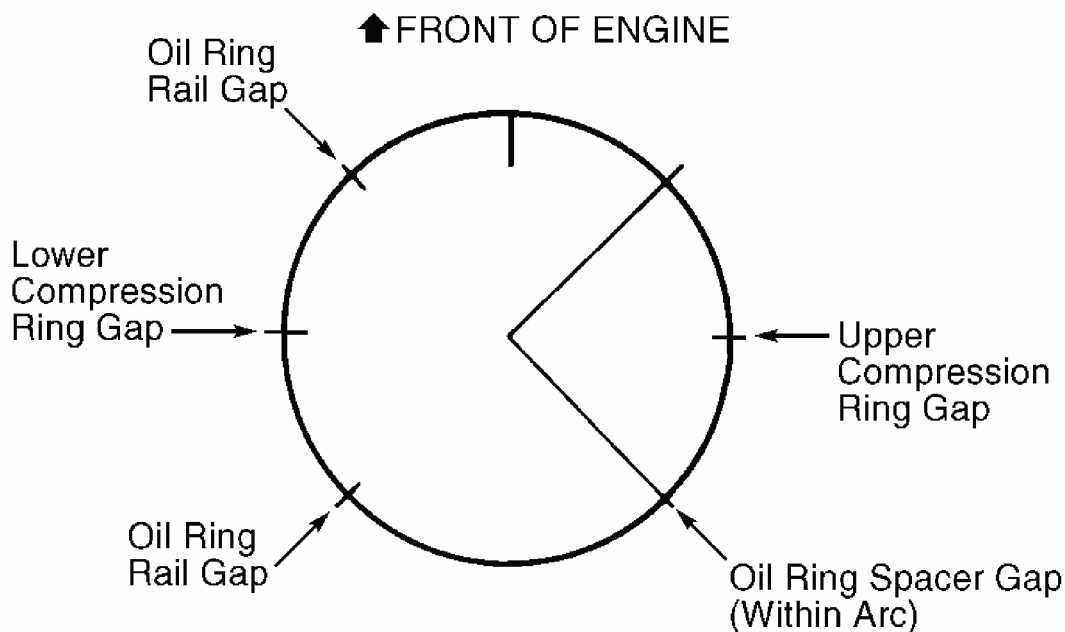
1. Mark piston in relation to cylinder bore before removal. Piston pin is press-fit in connecting rod. Mark piston in relation to connecting rod before separating components.
2. Replace piston and piston pin as matched set. Install piston in bore with notch on top of piston toward front of engine.

Fitting Pistons

1. Measure piston diameter at 90-degree angle to piston pin, on piston pin center line. Measure cylinder bore diameter 2 1/2" below cylinder block deck. Determine piston clearance.
2. If piston clearance is not within specification, replace piston and/or machine cylinder bore as necessary. See **CYLINDER BLOCK** table and **PISTONS, PINS & RINGS** table under ENGINE SPECIFICATIONS.

Piston Rings

Measure piston ring end gap and side clearance. If measurement is not within specification, replace piston and/or rings as necessary. See **PISTONS, PINS & RINGS** table under ENGINE SPECIFICATIONS. Install rings with mark on ring facing upward. Position ring end gaps around circumference of piston as shown. See **Fig. 7**.



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Fig. 7: Positioning Piston Ring End Gaps
Courtesy of GENERAL MOTORS CORP.

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Rod Bearings

1. Measure the rod bearing journal out-of-round, taper and the oil clearance. If the measurement is not within specification, replace the rod bearings and/or machine crankshaft. Refer to **CRANKSHAFT, MAIN & CONNECTING ROD BEARINGS** table under ENGINE SPECIFICATIONS.
2. Ensure rod side play is within specification. See **CONNECTING RODS** table under ENGINE SPECIFICATIONS.

Crankshaft & Main Bearings

1. Mark bearing caps for reassembly. Measure journal diameter, out-of-round, taper and oil clearance. If measurement is not within specification, replace main bearings and/or machine crankshaft. See **CRANKSHAFT, MAIN & CONNECTING ROD BEARINGS** table under ENGINE SPECIFICATIONS.
2. Align thrust bearing surfaces, and measure crankshaft end play. See THRUST BEARING heading below.

CAUTION: On some 4.3L engines, the distance between rear main bearing thrust faces is .008" (.20 mm) wider than standard (identified by .008" stamped on crankshaft rear counterweight). When replacing rear main bearings on these engines, use only .008" (.20 mm) wider bearings.

Thrust Bearing

1. Install main bearing caps (except rear), and tighten cap bolts to specification. See **TORQUE SPECIFICATIONS** . Install rear main bearing cap and tighten cap bolts to 10 ft. lbs. (14 N.m).
2. Tap crankshaft rearward then forward to align thrust surfaces. Tighten rear main bearing cap bolts to specification. Measure crankshaft end play at forward thrust surface of rear main bearing cap. See **CRANKSHAFT, MAIN & CONNECTING ROD BEARINGS** table under ENGINE SPECIFICATIONS.

Cylinder Block

Measure cylinder bore out-of-round and taper. If measurement is not within specification, machine cylinder bore and/or replace piston. See **CYLINDER BLOCK** table under ENGINE SPECIFICATIONS.

LUBRICATION

ENGINE OILING SYSTEM

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Gear-type oil pump delivers full pressure lubrication through full-flow oil filter to main oil gallery. Main oil gallery feeds crankshaft and camshaft bearings through drilled passages in block.

Valve lifter oil gallery feeds valve lifters. From lifters, oil is routed through hollow push rods to upper valve train components. Timing chain and sprockets are lubricated by oil drainage from No. 1 camshaft bearing. Pistons and piston pins are lubricated by oil splash. Non-adjustable oil pressure regulator is located in oil pump body.

Crankcase Capacity

See **CRANKCASE CAPACITY** table.

CRANKCASE CAPACITY ⁽¹⁾

Application	Qts. (L)
4.3L	5.0 (4.7)
(1) Capacity includes oil filter.	

Oil Pressure

Measure oil pressure with engine at operating temperature and specified RPM. See **OIL PRESSURE SPECIFICATIONS** table.

OIL PRESSURE SPECIFICATIONS ⁽¹⁾

Application	psi (kg/cm ²)
1000 RPM	6 (0.4)
2000 RPM	18 (1.3)
4000 RPM	24 (1.7)
(1) Minimum specification.	

OIL PUMP

NOTE: Pick-up tube is serviceable. Unless tube is damaged, DO NOT remove tube from pump body.

Removal & Disassembly

1. Remove oil pan. See **OIL PAN** under REMOVAL & INSTALLATION. Remove oil pump bolt. Remove pump and extension shaft. Remove pick-up tube (if necessary).
2. Remove pump cover. Mark relationship between gears at a meshing point for reassembly. Remove gears. Remove pressure regulator valve retaining pin. Remove pressure regulator valve and spring.

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Inspection

Inspect pump body and cover for cracks or excessive wear. Inspect pump gears for damage or wear. Check drive gear shaft for looseness in pump body. Check pressure regulator valve for fit in bore. Replace entire pump assembly if damaged. Inspect inlet tube and screen assembly for damage.

Reassembly & Installation

1. Install pump gears into pump body with marked gear teeth indexed. If pick-up tube was removed, apply sealant to tube end. Tap tube end into pump using plastic hammer. Reassemble remaining components in reverse order of disassembly.
2. Prime oil pump with engine oil. Install pump and extension shaft, ensuring slot on top of extension shaft engages with drive tang on end of distributor shaft. Tighten oil pump bolt to specification. See **TORQUE SPECIFICATIONS** . Install oil pan.

TORQUE SPECIFICATIONS

TORQUE SPECIFICATIONS

Application	Ft. Lbs. (N.m)
Balance Shaft Gear Bolt	
Step 1	15 (20)
Step 2	Additional 35 Degrees
Balance Shaft Retainer Plate Bolts	10 (14)
Bellhousing Bolt	32 (44)
Camshaft Sprocket Bolt	21 (28)
Connecting Rod Cap Nut	
Step 1	20 (27)
Step 2	Additional 70 Degrees
Crankshaft Damper Bolt	70 (95)
Cylinder Head Bolt ⁽¹⁾	
Step 1	25 (34)
Step 2	44 (60)
Step 3	66 (90)
Exhaust Manifold Bolt	
Center 2	26 (35)
All Others	19 (26)
Flywheel Bolt	74 (100)
Front Cover Bolt	10 (14)

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Intake Manifold Bolt	(2) 35 (48)
Main Bearing Cap Bolt	78 (106)
Oil Filter Adapter Bolt	16 (22)
Oil Pan Nut	16 (22)
Oil Pump Bolt	66 (90)
Rear Crankshaft Oil Seal Retainer Bolt	11 (15)
Rocker Arm (With Screw-In Studs)	
Rocker Nut	19 (26)
Rocker Stud	35 (48)
Valve Lifter Retainer Bolt	12 (16)
Water Pump Bolt	30 (40)
INCH Lbs. (N.m)	
Oil Pan Bolt	97 (11)
Oil Pump Cover Bolt	80 (9)
Valve Cover Bolt	89 (10)
(1) Apply GM Sealant (1052080) to head bolt threads. Tighten bolts in sequence. See Fig. 3 .	
(2) Tighten bolts to specification in sequence. See Fig. 2 . Repeat tightening sequence.	

ENGINE SPECIFICATIONS

GENERAL SPECIFICATIONS

GENERAL SPECIFICATIONS

Application	Specification
Displacement	262 Cu. In. (4.3L)
Bore	4.00" (101.6 mm)
Stroke	3.48" (88.4 mm)
Compression Ratio	9.1:1
Fuel System	CPI
Horsepower @ RPM	195 @ 4500
Torque Ft. Lbs. @ RPM	260 @ 3600

CRANKSHAFT, MAIN & CONNECTING ROD BEARINGS

CRANKSHAFT, MAIN & CONNECTING ROD BEARINGS

Application	In. (mm)
Crankshaft End Play	.002-.006 (.05-.15)
Main Bearings	

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Journal Diameter	
No. 1	2.4484-2.4493 (62.189-62.212)
No. 2 & 3	2.4481-2.4490 (62.182-62.205)
No. 4	2.4479-2.4488 (62.177-62.200)
Journal Out-Of-Round	.0002-.001 (.005-.025)
Journal Taper	.0002-.001 (.005-.025)
Oil Clearance	
Standard	
No. 1	.0008-.0020 (.020-.051)
No. 2 & 3	.0011-.0023 (.028-.059)
No. 4	.0017-.0032 (.043-.081)
Service Limit	
No. 1	.0010-.0015 (.025-.038)
No. 2 & 3	.0010-.0025 (.025-.064)
No. 4	.0025-.0035 (.064-.089)
Connecting Rod Bearings	
Journal Diameter	2.2487-2.2497 (57.117-57.142)
Journal Out-Of-Round	.0005-.001 (.013-.030)
Journal Taper	.0005-.001 (.013-.030)
Oil Clearance	.0013-.0035 (.033-.089)

CONNECTING RODS**CONNECTING RODS**

Application	In. (mm)
Side Play	.015-.046 (.38-1.17)

PISTONS, PINS & RINGS**PISTONS, PINS & RINGS**

Application	In. (mm)
Piston Clearance	.0007-.0017 (.018-.043)
Pin Diameter	.9270-.9273 (23.546-23.553)
Piston Fit	
Standard	.0002-.0007 (.005-.018)
Service Limit	.0010 (.030)
Rod Fit	.0008-.0016 (.020-.041)

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	Interference
Rings	
No. 1	
End Gap	.010-.020 (.25-.51)
Side Clearance	.001-.003 (.03-.08)
No. 2	
End Gap	.010-.025 (.25-.64)
Side Clearance	.001-.003 (.03-.08)
No. 3 (Oil)	
End Gap	.015-.055 (.38-1.40)
Side Clearance	.002-.007 (.05-.18)

CYLINDER BLOCK**CYLINDER BLOCK**

Application	In. (mm)
Cylinder Bore	
Diameter	4.0007-4.0017 (101.618-101.643)
Maximum Taper	⁽¹⁾ .0005 (.013)
Maximum Out-Of-Round	⁽²⁾ .001 (.03)
(1) Specification is for thrust side. Relief side is .001" (.03 mm).	
(2) Production specification is given. Maximum service specification is .002" (.05 mm).	

VALVES & VALVE SPRINGS**VALVES & VALVE SPRINGS**

Application	Specification
Valves	
Face Angle	45°
Minimum Margin	.031" (.79 mm)
Valve Springs	
Free Length	2.03" (51.6 mm)
Installed Height	1.69-1.71" (42.9-43.4 mm)
Pressure ⁽¹⁾	
Valve Closed	76-84 @ 1.70 (34-38 @ 43.2)
Valve Open	194-206 @ 1.25 (88-93 @ 31.8)

1995 Chevrolet S10 Pickup

ENGINE OVERHAUL 1995 GENERAL MOTORS ENGINES 4.3L V6 - VIN Z

(1) Lbs. @ In. (Kg @ mm).

CYLINDER HEAD**CYLINDER HEAD**

Application	Specification
Valve Seats	
Intake Valve	
Seat Angle	46°
Seat Width	.035-.060" (.89-1.52 mm)
Maximum Seat Runout	.002" (.05 mm)
Exhaust Valve	
Seat Angle	46°
Seat Width	.063-.094" (1.60-2.39 mm)
Maximum Seat Runout	.002" (.05 mm)
Valve Guide Oil Clearance	.001-.003" (.03-.08 mm)

CAMSHAFT**CAMSHAFT**

Application	In. (mm)
End Play	.004-.012 (.10-.30)
Journal Diameter	1.8682-1.8692 (47.452-47.478)
Lobe Lift	
Intake	(1) .234 (5.94)
Exhaust	(1) .257 (6.53)
(1) Plus or minus .002" (.05 mm).	

BALANCE SHAFT**BALANCE SHAFT**

Application	In. (mm)
Journal Diameter	
Front Journal	2.1648-2.1654 (54.986-55.001)
Rear Journal	1.4994-1.5000 (38.085-38.100)
Oil Clearance (Rear Journal)	.0010-.0036 (.025-.091)